In the Claims

This listing of claims will replace all prior versions and listings of claims in this application.

1 (Currently amended). A recombinant bacterial cell comprising ~~an isolated nucleic acid construct, said cell expressing~~ heterologous DNA encoding at least one alkalinizing enzyme and at least one nickel transporter operably linked to one or more promoters such that said cell expresses at least one alkalinizing enzyme and [[a]]at least one nickel transporter.

2 (Original). The cell of claim 1, wherein said cell belongs to a bacterial strain that colonizes dental plaque.

3 (Currently amended). The cell of claim 2, wherein said bacterial ~~strain is at least one~~ cell is selected from the group consisting of *Streptococcus mutans, Streptococcus sanguinis, Streptococcus gordonii, Streptococcus parasayzguis, Streptococcus vestibularis, Steptococcus oralis*, and *Streptococcus mitis*.

4 (Previously presented). The cell of claim 1, wherein said alkalinizing enzyme is an ammonia-producing enzyme.

5 (Original). The cell of claim 4, wherein said ammonia-producing enzyme is a urease.

6 (Original). The cell of claim 4, wherein said ammonia-producing enzyme is an arginine deiminase.

7 (Original). The cell of claim 4, wherein said ammonia-producing enzyme is an agmatine deiminase.

8 (Currently amended). The cell of claim 1, wherein said cell comprises a construct that comprises at least one gene cluster encoding a urease.

9 (Original). The cell of claim 8, wherein said construct comprises *ureIABCEFGDMQO.*

10 (Currently amended). The cell of claim 1, wherein said cell comprises a construct that comprises at least one gene cluster encoding an arginine deiminase system.

11 (Original). The cell of claim 10, wherein said construct comprises *arcABCDTR.*

12 (Currently amended). The cell of claim 1, wherein said cell comprises a construct that comprises at least one gene cluster encoding an agmatine deiminase system.

13 (Original). The cell of claim 12, wherein said construct comprises *aguBDAC* and a transcriptional regulator located upstream of the *agu* gene cluster.

14-17 (Cancelled).

18 (Currently amended). A composition comprising at least one recombinant bacterial cell ~~including an isolated nucleic acid construct, said cell expressing at least one alkalinizing enzyme and a nickel transporter~~ of claim 1, [[in]]and a carrier.

19 (Currently amended). The composition of claim 18, wherein said cell comprises a nucleic acid construct that comprises at least one gene cluster encoding a urease enzyme.

20 (Canceled).

21 (Currently amended). The composition of claim 18, wherein said call comprises a nucleic acid construct that comprises at least one gene cluster encoding an arginine deiminase system.

22 (Currently amended). The composition of claim 18, wherein said cell comprises a nucleic acid construct that comprises at least one gene cluster encoding an agmatine deiminase system.

23 (Original). The composition of claim 18, wherein said carrier is selected from the group consisting of a chewing gum, a toothpaste, a lozenge, a powder, a gel, an ointment, a cream, a liquid, a mouthwash, a rinse, and a candy.

24-33 (Cancelled).

34 (Previously presented). A composition comprising:

a host cell; and

an insertion vector comprising nucleic acid sequences encoding an alkali producing enzyme and a nickel transporter; wherein,

the vector is stably integrated into the host cell genome.

35 (Original). The composition of claim 34, wherein the alkali producing enzyme is urease.

36 (Original). The composition of claim 34, wherein the host cell is selected from cells present in the oral cavity of a subject suffering from dental caries.

37 (Original). The composition of claim 34, wherein the host cell is selected from the genus Streptococcus.

38 (Original). The composition of claim 34, wherein the vector targets a *mtl* gene.

39 (Original). The composition of claim 38, wherein the vector further comprises nucleic acid sequences complementary to the *mtl* gene.

40-42 (Cancelled).

43 (Original). The composition of claim 38, wherein the host cell is selected by its inability to grow on mannitol.

44 (Original). The composition of claim 34, wherein the vector further comprises an entire urease gene cluster.

45 (Original). The composition of claim 44, wherein transcription of the urease gene cluster is under control of a strong promoter.

46 (Original). The composition of claim 44, wherein transcription of the urease gene cluster is under control of a tetracycline resistant promoter isolated from a tetracycline resistant gene.

47 (Original). The composition of claim 44, wherein transcription of the urease gene cluster is under control of a urease cognate promoter.

48 (Original). The composition of claim 34, wherein the host cell further comprises a detectable gene marker.

49 (Original). The composition of claim 48, wherein the detectable gene marker is an antibiotic resistance marker.

50 (Original). The composition of claim 34, wherein the host cell expresses urease enzymes in the absence of any exogenous nickel.

51 (Original). The composition of claim 50, wherein the host cell produces an extracellular alkali base.

52 (Original). The composition of claim 34, wherein the host cell secretes ammonia.

53-59 (Cancelled) .